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United States
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Pacific
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Region

Umatilla
National Forest



INVENTORYING ELK HUNTER USE IN THE NORTH FORK JOHN DAY WILDERNESS



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IN THE NORTH FORK JOHN DAY WILDERNESS

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Title: Inventorying Elk Hunter Use in the North Fork John Day Wilderness

Abstract: The Umatilla National Forest is in the process of developing a management plan for the recently designated North Fork John Day Wilderness. Existing recreation use data, for the area, was an estimate of questionable value. Therefore, as a precedent to the plan, the Forest saw a need to generate more reliable base data. This paper describes a procedure for inventorying recreation use in an area that receives most of its use during 2 weeks in November. Recreation visitor days were calculated from vehicle counts around the perimeter of the Wilderness during the two firearms bull elk seasons in 1984. In addition to determining the quantity of use, characteristics of the users, the most popular campsites, and trails were identified.

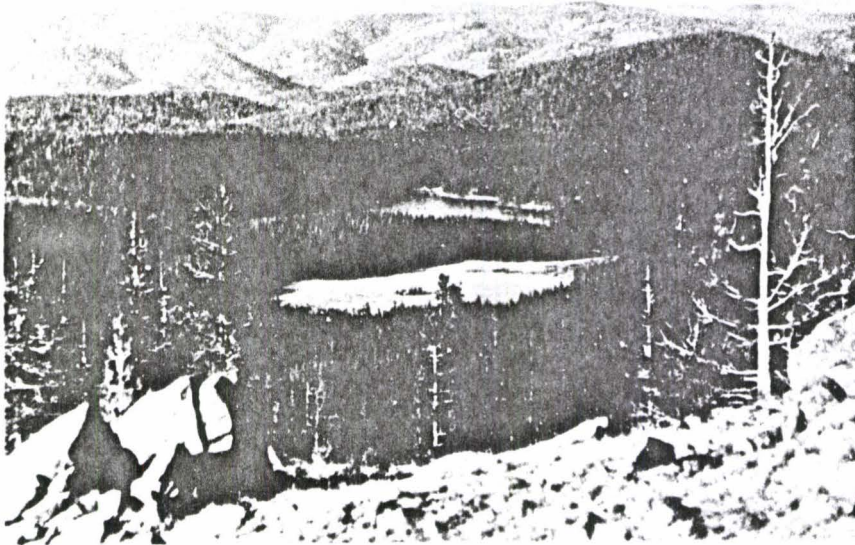
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A PROCEDURE FOR INVENTORYING ELK HUNTER USE IN THE NORTH FORK JOHN DAY WILDERNESS

INTRODUCTION

The 1984 Oregon Wilderness Bill created the North Fork John Day Wilderness. Two National Forests in Eastern Oregon share the management of the Wilderness, the Umatilla and the Wallowa-Whitman. The Wallowa-Whitman manages 15,609 acres and the Umatilla manages 106,787 acres.



Looking into the North Fork John Day Wilderness
from the ridge South of Olive Lake

Currently the National Forests of Oregon are engaged in development of Forest Land Management Plans. One component of these Forest plans will be management plans for Wilderness areas coming under the jurisdiction of the Forest. The Umatilla National Forest is in the process of developing a management plan for the North Fork John Day Wilderness.

In order to develop a Wilderness Management Plan, it is important that an assessment of the current situation be made (Hendee, 1978). From this assessment, assumptions about the future can be developed which will help in establishing management objectives.

The Umatilla National Forest set out to determine the amount and characteristics of recreation use on the 106,787 acres of the North Fork John Day Wilderness within the Forest boundaries. It was assumed, through field observation, that approximately 80% of recreation use in this Wilderness occurs during the firearms bull elk seasons (end of October through mid-November). Since the majority of use occurs within such a short time period, efforts were focused on gathering and analyzing Wilderness use data during this time period. It is assumed that by concentrating on use patterns during this time period that the areas and patterns of use for the entire use season would be identified.

PURPOSE

The purpose of developing this inventory procedure was twofold: first, to gather use data during the firearms bull elk seasons this first year after Wilderness designation to establish a base from which to build future data; and second, to provide the Forest with a system by which it could continue to monitor use over time.

This inventory will identify popular campsites, Wilderness access points, and numbers of hunters within the area. Hunter numbers will be used to determine recreation visitor days (rvd's) per acre. This can then be compared to Wilderness capacity and, if capacity is used as a measure of limits of acceptable change, then this inventory can be used as a tool to determine how near capacity the Wilderness is being used.

INVENTORY METHODS

The following methods of gathering Wilderness use data were considered: a permit system, trail registers, and vehicle counts. The Umatilla National Forest had been administering a Wilderness entry permit system on the Wenaha-Tucannon Wilderness since 1979. The last period in which the Forest administered the permit system was through the 1984 big game seasons. Since the Wilderness areas on the Forest are not restricting use, the permit system was used primarily for data gathering. The price for gathering this data came high in terms of personnel needed to issue the permits and check compliance, the cataloging and processing of the permits themselves, and, not least of all, the inconvenience to the Wilderness user.

The Pacific Northwest Region has also been discouraging use of the Wilderness entry permit for gathering data. The Umatilla National Forest was one of the last two Forests in the Region to issue Wilderness entry permits. Because of these factors, the Forest chose not to use the permit system to gather Wilderness use data.

Another method considered to gather Wilderness use data was the trail register. Trail registers are the most popular means of gathering Wilderness data and they have been reasonably successful where Wilderness use is primarily by backpackers during the summer use season. In Bob Lucas' study of visitor compliance rates at voluntary trail registers in the Bob Marshall Wilderness, he came to the conclusion that low-compliance rates were due to the high percentage of horseman and hunters during the fall use season. "Horseman and hunters have low (compliance) rates everywhere." (Lucas, 1983)

The North Fork John Day Wilderness has a great majority of its use occurring during the hunting season, and most of the horse use is by hunters. Since horseman and hunters have the lowest compliance rate of all users at trail registers, it was determined that this method would produce too small a sample to be meaningful.

SELECTED INVENTORY METHOD

The 106,787 acres of the North Fork John Day Wilderness on the Umatilla National Forest are split by roads into three pieces and have roads along most of the perimeter. Because of this, hunters traditionally camp along the perimeter of the Wilderness area and hunt from camp or camp further away and drive to the edge of the Wilderness and use their vehicle as a base from which to hunt.

Based on this pattern of use, an inventory method was devised to determine a ratio of hunters to vehicles and then to count vehicles around the Wilderness perimeter at the beginning and toward the end of each season. This would give a reasonable estimate of the number of hunters using the Wilderness area. A count is taken at the beginning and toward the end of each season because hunters begin to leave before the end of the season. By comparing these beginning and ending figures, a rate of decline could be determined. This rate is used to determine total recreation visitor days for the period. If just the beginning hunter number was figured and multiplied by the total days in the season, an inflated use figure would be generated.

The ratio of hunters per vehicle was determined by visiting as many camps as possible during the day prior to the opening of each elk season. During these visits the Forest Service personnel were able to give out information concerning acceptable activities within Wilderness, answer question, get size of parties relative to numbers of vehicles in camp and identify camp locations on a map. Information was recorded on the User Interview Form (Exhibit 1).

Vehicles were counted by designated road section and recorded on the Vehicle Inventory Form (Exhibit 2) during the first two days of each season and on the next to the last day of each season.

The area to be covered was so large that it was divided into 3 zones with a two-person team assigned to each zone. This approach made it possible to cover the entire road system in one day.

The following information was given to each inventory team member at an information-sharing session conducted prior to the actual in-the-field inventory.

PROCESS FOR INVENTORYING WILDERNESS USE DURING FIREARMS BULL ELK SEASONS

PURPOSE: Determine the number of hunters using the North Fork John Day Wilderness during firearms bull elk seasons. We are in the process of gathering data on how, when, and by whom the Wilderness is used. From this data we will be developing a Wilderness Management Plan. The plan will provide direction for the administration of the Wilderness. Direction will range from problem resolution in meeting the Wilderness Act to defining facility needs to protect the Wilderness while accomodating the wilderness user.

It is our belief that the Wilderness will receive approximately 80 percent of its use during the firearms bull elk seasons. Therefore, the greatest potential for impacts on the Wilderness will occur at this time of the year. Our inventory will give us a clear picture of what impacts are being created and where they occur.

TYPES OF INFORMATION NEEDED:

1. Estimate of total number of hunters.
2. Number of vehicles adjacent to Wilderness.
3. Average number of hunters/vehicles parked along the Wilderness perimeter.
4. Primary access points.
5. Major camp locations adjacent to and within the Wilderness.

PROCEDURE: In order to estimate the number of hunters in the Wilderness, we will develop a ratio of hunters per vehicle. It would be impossible for us to count the hunters in the Wilderness but we can count the vehicles parked along the perimeter. By interviewing hunters we meet in the field, we will be able to develop a ratio of hunters to vehicles, thus allowing us to estimate the number of hunters in the Wilderness based on the vehicles parked along the perimeter.

We will count vehicles daily around the perimeter of the Wilderness for the first 2 days and the next to the last day of both seasons. There will be three teams counting vehicles around the Wilderness and they will be assigned specific roads to cover. The vehicles counted will be recorded by road segment, thus giving us some geographic specificity as to where concentrations of hunters are entering the Wilderness. The following is a list of road assignments for each group.

ROAD ASSIGNMENTS

Team	Road Number	Road Segment
red	F.S. 5507	F.S. 5506 to F.S. 52
"	F.S. 5226	Tower Mt. to F.S. 52
"	F.S. 5225	F.S. 52 to Silver Butte
"	F.S. 52	1 mi. N. of Trout Mdw. to F.S. 73
"	F.S. 73	F.S. 52 to Lucas Gulch
blue	F.S. 13	F.S. 10 to F.S. 1310
"	F.S. 1310	F.S. 13 to end of road
"	F.S. 1038	F.S. 7350 to F.S. 1035
"	F.S. 1035	F.S. 1038 to F.S. 10
"	F.S. 1030	F.S. 10 to end of road
"	F.S. 10	Fremont powerhouse to Olive Lake
green	F.S. 1010	O'Rouick Spg. to F.S. 5505
"	F.S. 5505	F.S. 1010 to Otter Ck.
"	F.S. 55	Big Ck. trailhead

Each team will carry a fireman's map of the Wilderness. All camps located around the perimeter of the Wilderness will be marked on the map. This is to give us an indication of where the concentrations of hunters occur. The day before the season opens the teams will concentrate on locating camps and interviewing hunters.

There will be teams covering the interior on the day before and the first 2 days of each season. These people will be interviewing hunters and also locating hunter camps on their maps. This information will help us to identify camp concentrations in the interior of the Wilderness and will help to develop the hunters/vehicle ratio (NOTE: this was not done because of weather conditions).

INTERVIEWING HUNTERS:

Approach people positively, identify who you are and that you're with the U.S. Forest Service. Explain what kind of information you're interested in and what the information will be used for. Explain that what is being done is for the benefit of the Wilderness user and the Wilderness environment. People being interviewed will more than likely have some questions for you. Answer them if you can and feel free to engage in casual conversation. It is not our intent to make anyone feel uneasy.

INVENTORY RESULTS

First Season

The day before the opening of the first firearms bull elk season (10/31/84) a total of 91 camps were contacted. The average number of people per vehicle determined from the 91 camps contacted was 2.18.

Vehicle counts were made on 10/31/84, 11/1/84 and 11/3/84.

CALCULATION OF HUNTER VISITOR DAYS

date	# of vehicles		people/ vehicle		# of hunters/day		hrs./day hunting **		hrs./ rwd		rwd's
10/31/84	351	x	2.18	=	765	x	6	÷	12	=	382
11/01/84	325	x	2.18	=	708	x	6	÷	12	=	354
11/02/84*	243	x	2.18	=	530	x	6	÷	12	=	265
11/03/84	160	x	2.18	=	349	x	6	÷	12	=	175
11/04/84	79	x	2.18	=	172	x	6	÷	12	=	<u>86</u>
											1262

This amounts to approximately .012 rwd/acre/hunting season.

* Since there were 49 percent fewer vehicles on 11/03 than on 11/01, it was assumed that 1/2 of them left by 11/2. Continuing this rate of decline, by 11/4 there would be 79 vehicles left on the last day.

**The 6 hours in the field/hunter/day was developed, for planning purposes in March 1982, by the Zone 4 (4 Blue Mountain National Forests in Eastern Oregon) Wildlife Biologists and the Oregon Department of Fish and Wildlife representatives of the NE and SE regions.

Second season

The day before the opening of the second bull elk season a total of 67 camps were contacted. The average number of people per vehicle determined from the 67 camps contacted was 2.21. Vehicle counts were made on 11/10/84, 11/11/84, and 11/17/84.

CALCULATION OF HUNTER VISITOR DAYS

date	# of vehicles		people/ vehicle		# of hunters/day		hrs./day hunting		hrs./ rvd		rvd's
11/10/84	246	x	2.21	=	543	x	6	÷	12	=	272
11/11/84	241	x	2.21	=	532	x	6	÷	12	=	266
11/12/84	217	x	2.21	=	479	x	6	÷	12	=	240
11/13/84	193	x	2.21	=	426	x	6	÷	12	=	213
11/14/84	169	x	2.21	=	373	x	6	÷	12	=	187
11/15/84	145	x	2.21	=	320	x	6	÷	12	=	160
11/16/84	121	x	2.21	=	267	x	6	÷	12	=	134
11/17/84	97	x	2.21	=	214	x	6	÷	12	=	107
11/18/84	73	x	2.21	=	161	x	6	÷	12	=	80
											1659

This amounts to approximately .015 rvd/acre/hunting season.

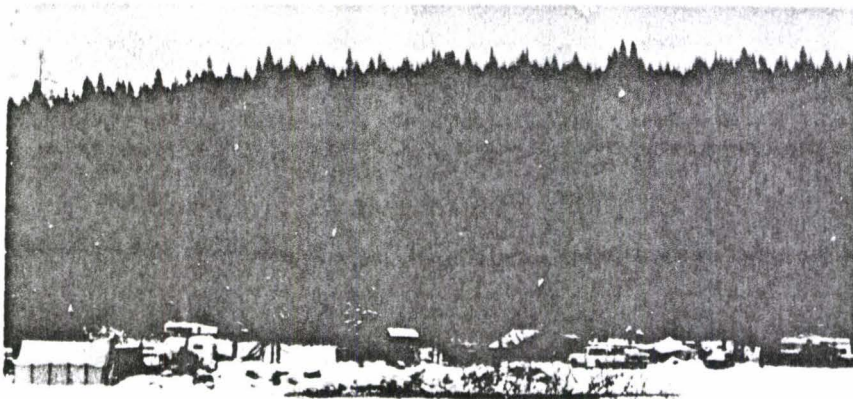
The difference in vehicle numbers counted between 11/11 and 11/17 was 144. This decrease was spread equally to days 11/12 through 11/17. The amount of decrease (24 vehicles/day) used between 11/12 and 11/17 was also applied between 11/17 and 11/18.

Camp locations

During the inventory process, data was gathered on the most popular areas to camp and access the Wilderness. The following list identifies the eight most popular camping areas. These are prioritized with Number 1 having the highest concentration of camps and 8 having least (see map in appendix for locations).

MOST POPULAR CAMP AREAS

1. Moon Meadow and Silver Butte
2. Trout Meadows
3. Granite Creek
4. Crane Flat
5. North Fork John Day Campground
6. Miner's Cabin
7. Big Creek Meadow
8. Forks Guard Station



A city of elk hunters at Moon Meadow

Trails

The trails serving the most popular camp areas were the most heavily used trails. The following trails were the most heavily used.

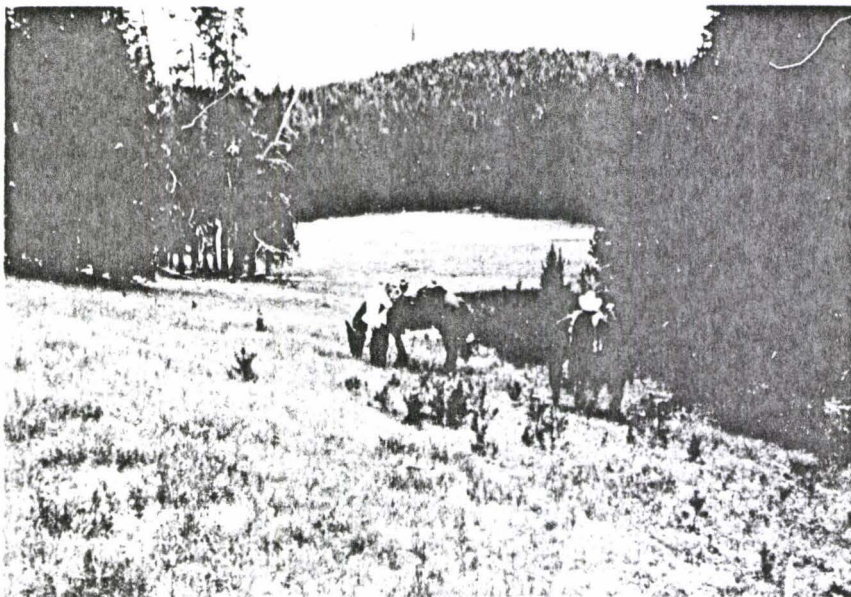
MOST POPULAR TRAILS

1. Trails out of Moon Meadow; #3029, #3044 and #6141.
2. Martin Creek trail; #3031.
3. Crane Creek trail; #3011.
4. River trail out of North Fork John Day Campground #3034.
5. Big Creek trail; #3151.

Horse Use

Prior to this area becoming Wilderness, there was very little horse use during the hunting seasons. Horse use was still light this first season after Wilderness designation. Discussions with numerous hunters left the impression that horse use will increase in the future. Now that the use of motorized vehicles is prohibited within the Wilderness area, the use of horses is becoming a more popular idea.

There were four areas that had small concentrations of horse users. The majority of the horse camps were located along F.S. Road 5225 from F.S. Road 52 to Silver Butte. Over half of the horse camps along this road were at Moon Meadow. Horse camps were also located along Granite Creek, at Crane Flat, and along F.S. Road 1010.



China Meadow, in the interior of the Wilderness
is accessed by Trail #3029 out of Noon Meadow

OBSERVATIONS

The weather played a major role in 1984 in determining the number of hunters using the North Fork John Day Wilderness. Nearly 2 feet of snow covered most of the Wilderness at the opening of the first season. This was accompanied by below zero temperatures. Before the second season started, the snow depth had increased several inches more.



More snow is coming to Trout Meadows

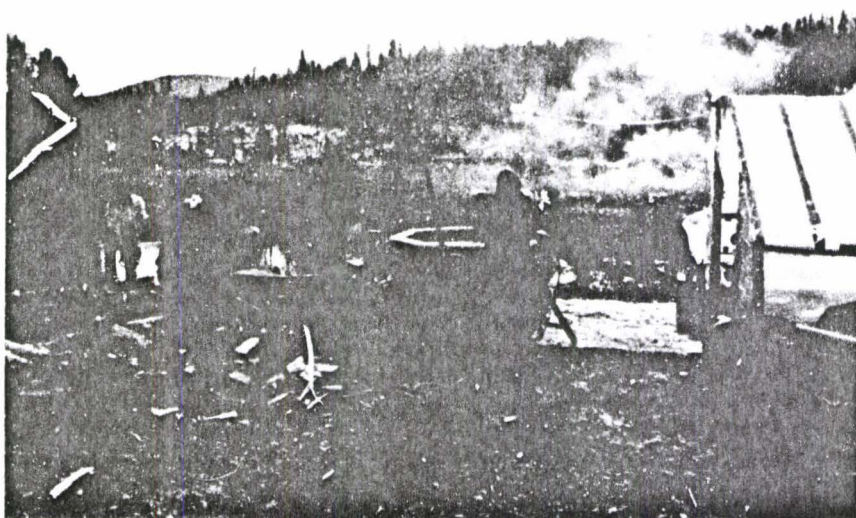
This unusual weather started the elk moving to lower elevations a few days before the first season. This resulted in low success rates in the Wilderness and abnormally high success rates in areas outside of the Wilderness to the South and the West. Many hunters avoided the Wilderness because of the snow conditions. Others hunted the first day or two then broke camp and followed reports of success in the lower country.

The second season attracted fewer hunters to the Wilderness than normally expected. Snow conditions had only gotten worse since the first season and stories of success in the lower country kept many hunters out of the Wilderness.

Due to these conditions, the use recorded for the North Fork John Day Wilderness during the 1984 bull elk seasons is assumed to be lower than normal.

Even with lower use, the camp areas and trails that have been popular for many years maintained their popularity. These camp areas are located outside of the perimeter of the Wilderness.

Most of the hunters did not appear to be looking for a pristine wilderness experience although, when interviewed the majority were pleased that the area had been designated Wilderness. They preferred hunting in an unroaded setting but also liked the conveniences of a modern camp with everything from power equipment to hot tubs.



A hot tub in elk camp along Granite Creek

The tradition of hunting the North Fork John Day country runs very deep. Some of the hunters interviewed had been camping and hunting in the same area for several decades. One camp at Moon Meadow was celebrating its 30th year at that location. Two camps at Silver Butte had been there 26 years and 12 years. A camp at Miner's Cabin was starting its 21st year.

Many hunters along Forest Road 5225 commented that they would prefer that the Forest Service not improve the quality of the road. Either the hunters feel that the road adds to the quality of their recreation experience or its condition limits the number of other hunters in the area.

Ninety percent of the hunters were from Oregon, many from the central and western parts of the state. Out-of-state hunters were primarily from California, Washington and Idaho.

CONCLUSIONS

The weather this past elk hunting season increased the awareness that use of the Wilderness is dependent on a variety of factors. Therefore, one season of use data is not nearly as valuable as several seasons of data, and it is recommended that this inventory procedure should continue to be used and improved each year during the firearms bull elk seasons. The information gathered will allow the Forest Service to keep abreast of the changes in use and impacts to the resources. It also makes the Forest Service visible to the public, which gives people the opportunity to express their concerns and get information. The presence of Forest Service personnel also helps in minimizing infractions of the law, particularly during these first few years after Wilderness designation.

Due to the diminishing dollars available to manage wilderness, it may be necessary to look at methods of collecting data and estimating use that are not so labor intensive. The following are some suggested alternatives to the method described in this report.

1. Use an airplane to count vehicles. The entire road system could be inventoried by one person in less time than it would take several ground crews. There is some risk in using this method. Some hunters maintain that the Oregon Department of Fish and Wildlife conducts low level flights to disperse elk for the purpose of reducing the chances of a hunter getting into a herd of elk with several bulls in the herd. Although this is not true, a low flying airplane during elk season could be shot at.

2. Use a sampling method. Every third or fifth year, depending on funding, conduct a complete inventory such as the one conducted in 1984. During the years in between, conduct vehicle counts only in selected high use areas, i.e., Moon Meadow and Trout Meadow. Since the highest use season for the Wilderness is during elk season, this would be the most logical time to spend limited wilderness funds on law enforcement and wilderness patrols. People involved in law enforcement or public contacts could count vehicles at these selected sites as part of their routine patrolling.

This data from these selected sites could be compared to data collected from these same sites during the complete inventory years. From these comparisons, projections of total use could be made.

3. The Oregon Department of Fish and Wildlife estimates hunter use each year during the elk seasons for its game management units. This estimate is based on hunter report cards that are randomly sent to hunters. The Forest could estimate the number of hunters who hunt on National Forest land in each game management unit that the wilderness lies within. This could be done with the assistance of local State game biologists.

The Forest has an estimate of how many people hunted in the wilderness area in 1984. A ratio could be established between hunters in wilderness and hunters on National Forest lands in game management units that the Wilderness lies within. Each year when the State prints its estimates of use per game management unit, the Forest could apply this ratio to estimate hunter use in the Wilderness.

It is also recommended that Forest Road 5225 be kept open out to Silver Butte. This road currently provides motorized access to the heart of the Wilderness. During the heavy-use period (big game hunting seasons) this road does not appear to create any conflict with the Wilderness users. It provides benefits by providing more Wilderness perimeter available for camping and it allows for better distribution of hunters throughout the area. Silver Butte and Moon Meadow are two of the most popular camp areas around the Wilderness and closing the motorized access to these locations would dramatically decrease their use. According to FSM 2320 - Wilderness Management (draft revision) under 2320.3 - policy (4), Wilderness is to be managed according to principles established by law. Practices may vary depending on environmental conditions, unique values, patterns of use, local customs, and traditional public attitudes that characterize individual Wildernesses. Therefore, The traditional use of popular camp areas should be a primary consideration in making management decisions that alter the established use of the land.



The end of a successful day

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APPENDIX

INVENTORY ROUTES

Legend:

Wilderness boundary ~~~~~

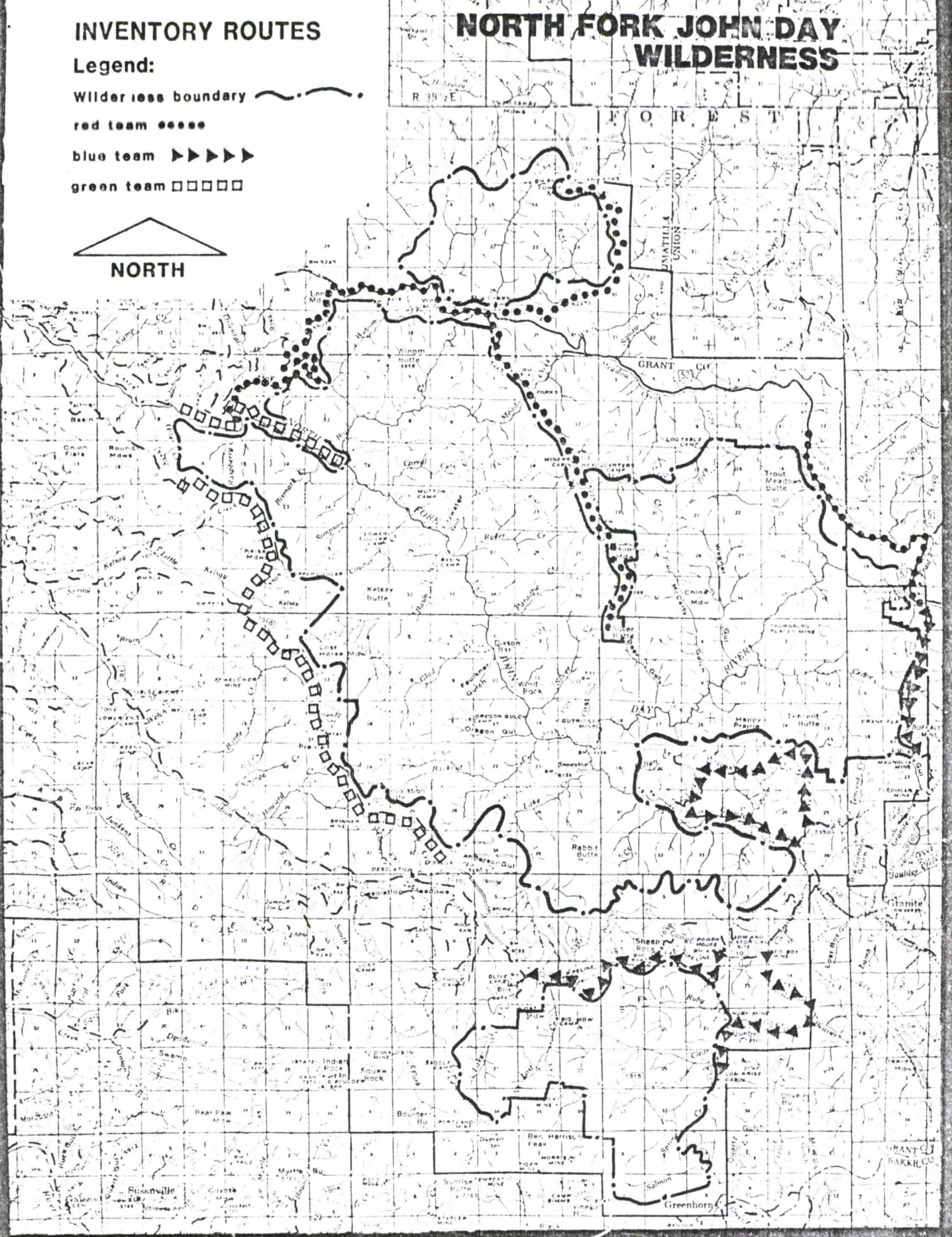
red team ooooo

blue team ▶▶▶▶▶

green team □□□□□



NORTH FORK JOHN DAY WILDERNESS



POPULAR CAMPSPOTS

Legend:

popular camps or

Wilderness boundary



NORTH

NORTH FORK JOHN DAY WILDERNESS

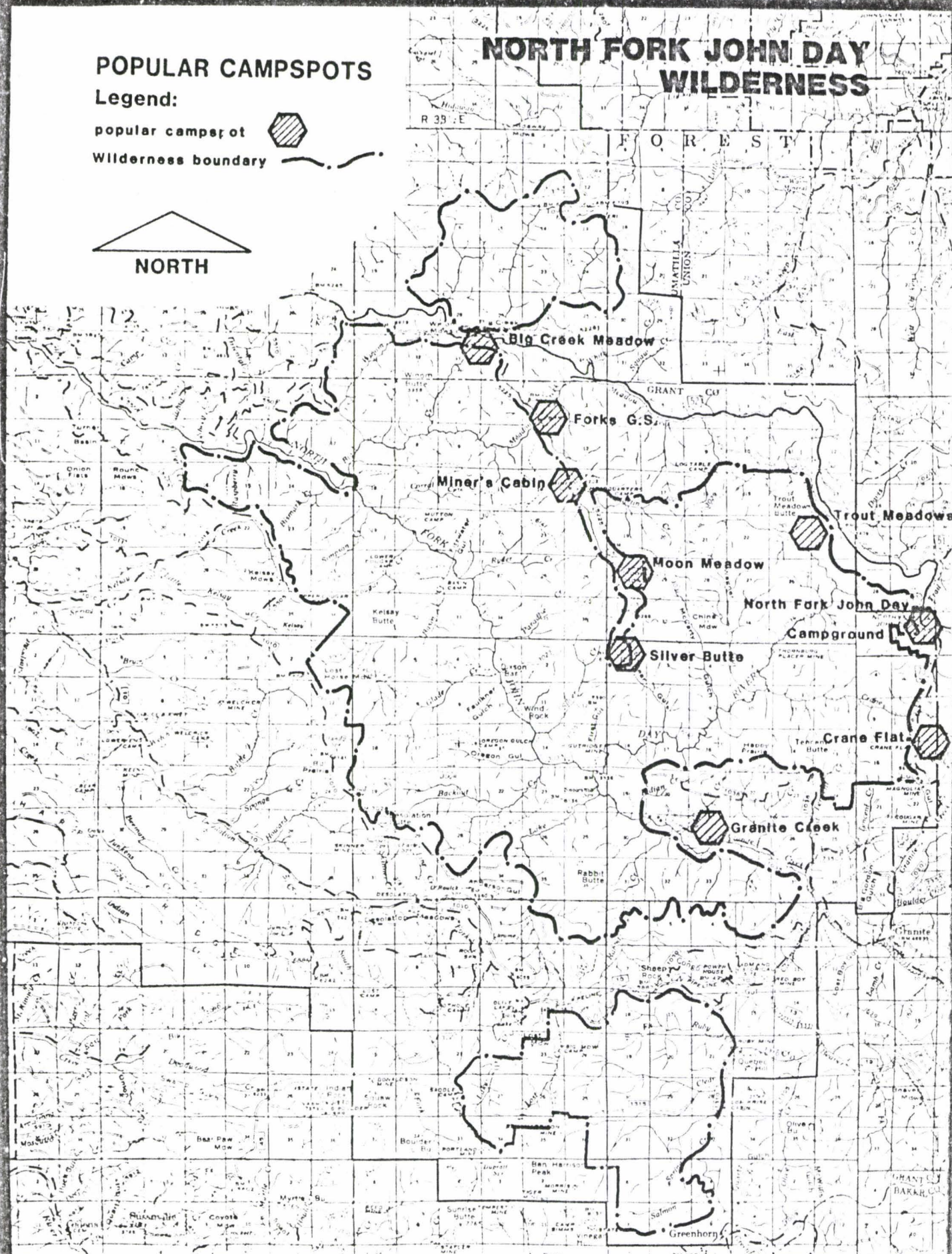


EXHIBIT 1

TEAM _____

DATE _____

USER INTERVIEW - N. FK. JOHN DAY WILDERNESS

1984 BULL ELK SEASONS

[illegible]

EXHIBIT 2

DATE _____

VEHICLE INVENTORY - N. FK. JOHN DAY WILDERNESS

1984 BULL ELK SEASONS

RED TEAM

Road Segment	Number of Vehicles	Comments
F.S. 5507		
F.S. 5226		
F.S. 5225		
F.S. 73		

BLUE TEAM

Road Segment	Number of Vehicles	Comments
F.S. 13		
F.S. 1310		
F.S. 1038		
F.S. 1035		
F.S. 1020		
F.S. 10		

GREEN TEAM

Road Segment	Number of Vehicles	Comments
F.S. 1010		
F.S. 5505		
F.S. 55		